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A THEORY OF WORK ADJUSTMENT. MINNESOTA STUDIES IN VOCATIONAL REHABILITATION, 15.

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DESCRIPTORS- *PROFESSIONAL REHABILITATION, *VOCATIONAL ADJUSTMENT, *THEORIES, RESEARCH, INDIVIDUAL CHARACTERISTICS, JOB SATISFACTION, VOCATIONAL COUNSELING,

A THEORY OF WORK ADJUSTMENT WHICH MAY CONTRIBUTE TO THE DEVELOPMENT OF A SCIENCE OF THE PSYCHOLOGY OF OCCUPATIONAL BEHAVIOR IS PROPOSED. IT BUILDS ON THE BASIC PSYCHOLOGICAL CONCEPTS OF STIMULUS, RESPONSE, AND REINFORCEMENT, AND PROVIDES A RESEARCH PARADIGM FOR GENERATING TESTABLE HYPOTHESES. IT WAS DERIVED FROM EARLY RESEARCH EFFORTS OF THE REGIONAL REHABILITATION RESEARCH INSTITUTE AT THE UNIVERSITY OF MINNESOTA. WORK ADJUSTMENT IS THE OUTCOME OF THE INTERACTION BETWEEN AN INDIVIDUAL AND HIS WORK ENVIRONMENT IN TERMS OF SATISFACTION AND SATISFACTORINESS. THE THEORY IS FORMULATED IN TERMS OF (1) THE DEFINITIONS OF SATISFACTION, SATISFACTORINESS, ABILITIES, NEEDS, ABILITY REQUIREMENTS, REINFORCER SYSTEM, CORRESPONDENCE, AND TENURE, AND (2) NINE PROPOSITIONS. THE FIRST PROPOSITION IS THAT AN INDIVIDUAL'S WORK ADJUSTMENT AT ANY POINT IN TIME IS DEFINED BY HIS CONCURRENT LEVELS OF SATISFACTORINESS AND SATISFACTION, THE EIGHTH IS THAT TENURE IS A FUNCTION OF SATISFACTORINESS AND SATISFACTION, AND THE NINTH IS THAT THE CORRESPONDENCE BETWEEN THE INDIVIDUAL (ABILITIES AND NEEDS) AND THE ENVIRONMENT (ABILITY REQUIREMENTS AND REINFORCER SYSTEM) INCREASES AS A FUNCTION OF TENURE. RESEARCH HYPOTHESES DERIVED FROM THE THEORY MAY BE OF THE CROSS-SECTIONAL, LONGITUDINAL, OR INDIVIDUAL LONGITUDINAL TYPES. THE THEORY IS COMPREHENSIVE IN THAT IT EMBRACES OR INTERPRETS FINDINGS OR CONCEPTS REPORTED IN RELEVANT LITERATURE SUCH AS ADAPTATION, ATTITUDES, EXTERNAL AND INTERNAL FORCES, OCCUPATIONAL PERSONALITY, SELF-ACTUALIZATION, AND VOCATIONAL CHOICE, INTEREST, AND MATURITY. THE THEORY CAN BE USEFUL IN (1) VOCATIONAL COUNSELING PRACTICE, (2) EDUCATION, AND (3) THE SPECIAL PROBLEM AREAS OF DISABILITY, AUTOMATION, UNEMPLOYMENT, AND RETIREMENT. THREE DIAGRAMS ILLUSTRATING THE THEORY ARE INCLUDED. THE FINDINGS EMANATING FROM A CONTINUING CORE RESEARCH PROGRAM BASED ON A MODEL PROVIDED BY THE THEORY ARE REPORTED IN A BULLETIN SERIES ENTITLED "MINNESOTA STUDIES IN VOCATIONAL REHABILITATION." (SL)

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# A Theory of Work Adjustment

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# *A Theory of Work Adjustment*

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# Table of Contents


| | Page |
|---|---|
| I. Introduction | 1 |
| II. A Context for the Theory | 5 |
| III. A Theory of Work Adjustment | 8 |
| A. Definitions | 9 |
| B. Propositions | 10 |
| IV. Some Implications from the Theory | 13 |
| A. Research Hypotheses | 13 |
| B. Comprehensiveness | 16 |
| V. Social Utility of the Theory of Work Adjustment | 21 |
| A. In Vocational Counseling Practice | 21 |
| B. In Education | 22 |
| C. In Special Problem Areas | 22 |
| Disability | 22 |
| Automation | 23 |
| Unemployment | 23 |
| Retirement | 24 |
| VI. Comment | 25 |
| References | 26 |

# A Theory of Work Adjustment

## I. Introduction

Frank Parsons (1909), in his classic "bible" for guidance entitled *Choosing a Vocation*, stated a sound approach to vocational choice and subsequent work adjustment. In his well-known formula, he proposed the use of man analysis plus job analysis, and a bringing together of the two in the interest of wise vocational choice. His conceptualization of guidance centered on a matching model, and set the stage for extensive research, around a similar model, to be done by the group of psychologists identified with what we now term the trait-and-factor-centered approach to vocational psychology.

As Paterson (1938) pointed out, in his timely paper on the *Genesis of Modern Guidance*, Parsons' ideas were sound, but he found the cupboard bare when he set out to apply the man-analysis part of his formula. Parsons' approach then degenerated into the use of self study plus job analysis, which was done on a rather unsophisticated basis. Some guidance workers fixated their study and practice on occupational information alone.

After Parsons, and particularly between the two world wars, the study and understanding of man analysis progressed, largely because of the extensive interest and work in the study of individual differences, particularly in the measurement of mental traits and interests. Job analysis techniques also became considerably more sophisticated, largely through the work of the U.S. Department of Labor, and culminated in the publication of the *Dictionary of Occupational Titles* (1949). This work continues in the current efforts to revise and to considerably expand the D.O.T.

The inherent soundness of Parsons' approach has been reflected in the history of vocational psychology by such major developments as:

Viteles' (1924, 1932) work in developing the job psychograph;

Dvorak's (1935) development of occupational ability patterns and the consequent development by the United States Bureau of Employment Security of Occupational Aptitude Patterns (1958);

Strong's (1943, 1955) measurement of vocational interests and the more recent development of Clark's Minnesota Vocational Interest Inventory (1961);

The development of multi-factor tests (Dvorak, 1958), with occupational norms, such as the General Aptitude Test Battery; and

The publication of counseling tools such as the Minnesota Occupational Rating Scales (Paterson, et al., 1941, 1953) and the Worker Trait Requirements for 4,000 Jobs (1956), in which an attempt at integration of worker traits and job requirements is made.

With these developments and instruments (and, obviously, many others could be added) available to them, many vocational psychologists have been utilizing the Parsons approach (essentially a matching approach) in their work.

Frustrations with measurement problems and with problems of *how* to match abilities and educational-vocational requirements, and how to evaluate the goodness of fit, appear to have resulted in a period of little progress in understanding vocational-choice behavior and vocational adjustment. During this period, attention was directed to the importance of such matters as the counseling relationship (Rogers, 1942, 1951, 1961) and communication (Robinson, 1950) in counseling. More recently, attention has been centered on such problems as the meaning of work (Roe, 1956; Herzberg, et al., 1959) and the process of career development (Super, et al., 1957, 1960).

With the availability of more sophisticated tools and techniques for man analysis and job analysis; better understanding of relationship and communication factors in counseling; renewed realization of the importance of need satisfaction through work; and study of the developmental aspects of such concepts as vocational maturity; the time seems appropriate for a reformulation of Parsons' approach.

Brayfield (1961), in a recent appraisal of the present status of vocational counseling, has expressed our feelings in the following quotations:

"My major concern, obviously, is with the underpinnings of vocational counseling practice. Though I would not minimize the importance of an improved knowledge of the counseling process and students' behavior between interviews, I am quite convinced that the most significant contribution to vocational counseling as a pro-

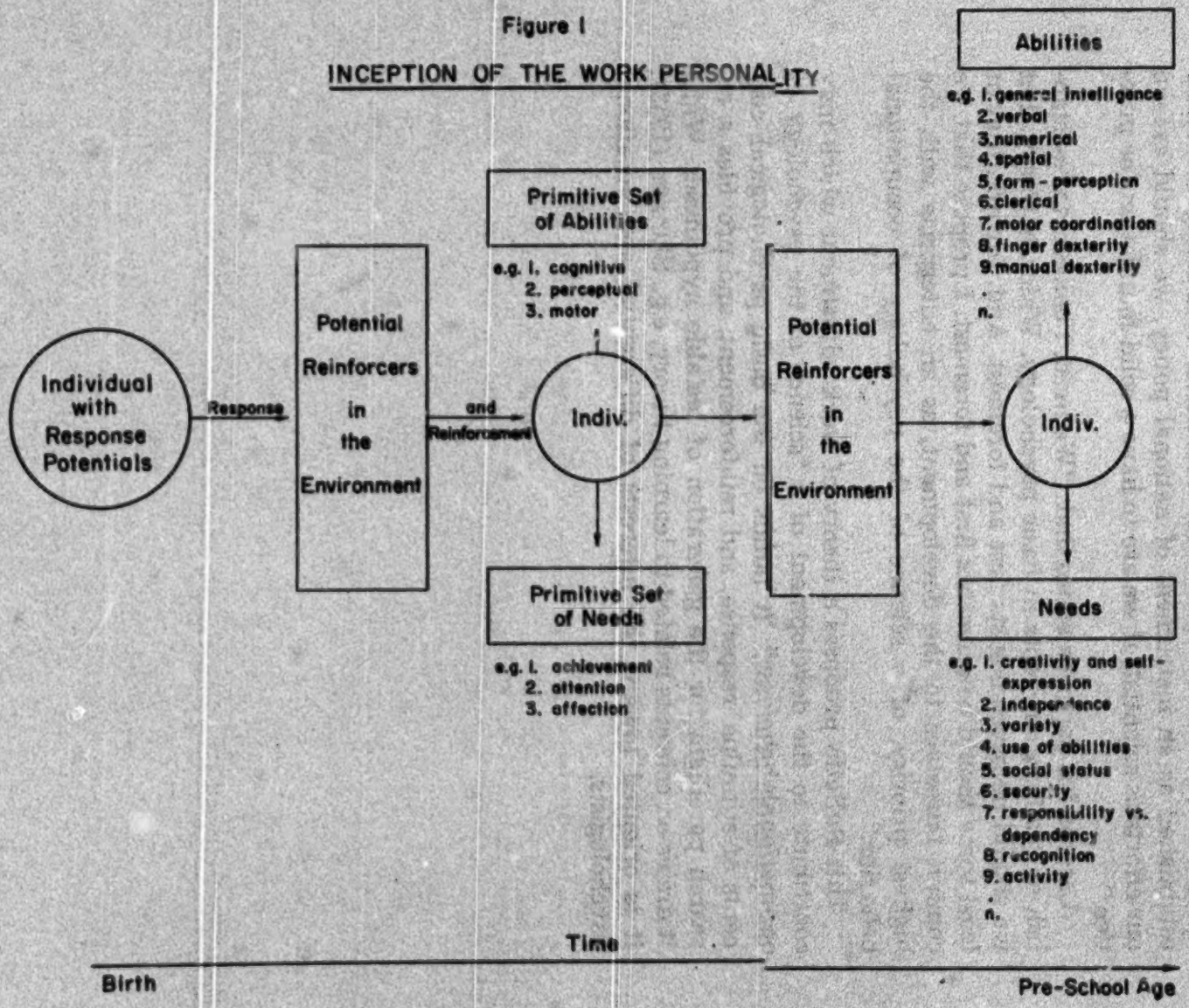
fessional practice will be made by those who nourish us with testable hypotheses and empirical data which help to build a science of occupational behavior. Now that vocational counseling is solidly established as an instrument of national policy, we should extend our efforts as scientists if we are to have a solid foundation for practice."

Later in his paper he states that: "We need, I believe, to re-establish or reaffirm our roots in basic psychology. Which is to say that we should be psychologists first and foremost. And, further, that at least some should be scientists first and foremost. I propose that we commit ourselves to the development, as an enterprise with the highest priority, of a science of the psychology of occupational behavior."

This Bulletin proposes a theory of work adjustment which may contribute to the development of a "science of the psychology of occupational behavior." It builds on the basic psychological concepts of stimulus, response, and reinforcement, and provides a research paradigm for the generation of testable hypotheses. While it draws on concepts related to learning theory, e.g., Skinner (1953), it is oriented toward the interests of differential and vocational psychologists.

Figure I

INCEPTION OF THE WORK PERSONALITY



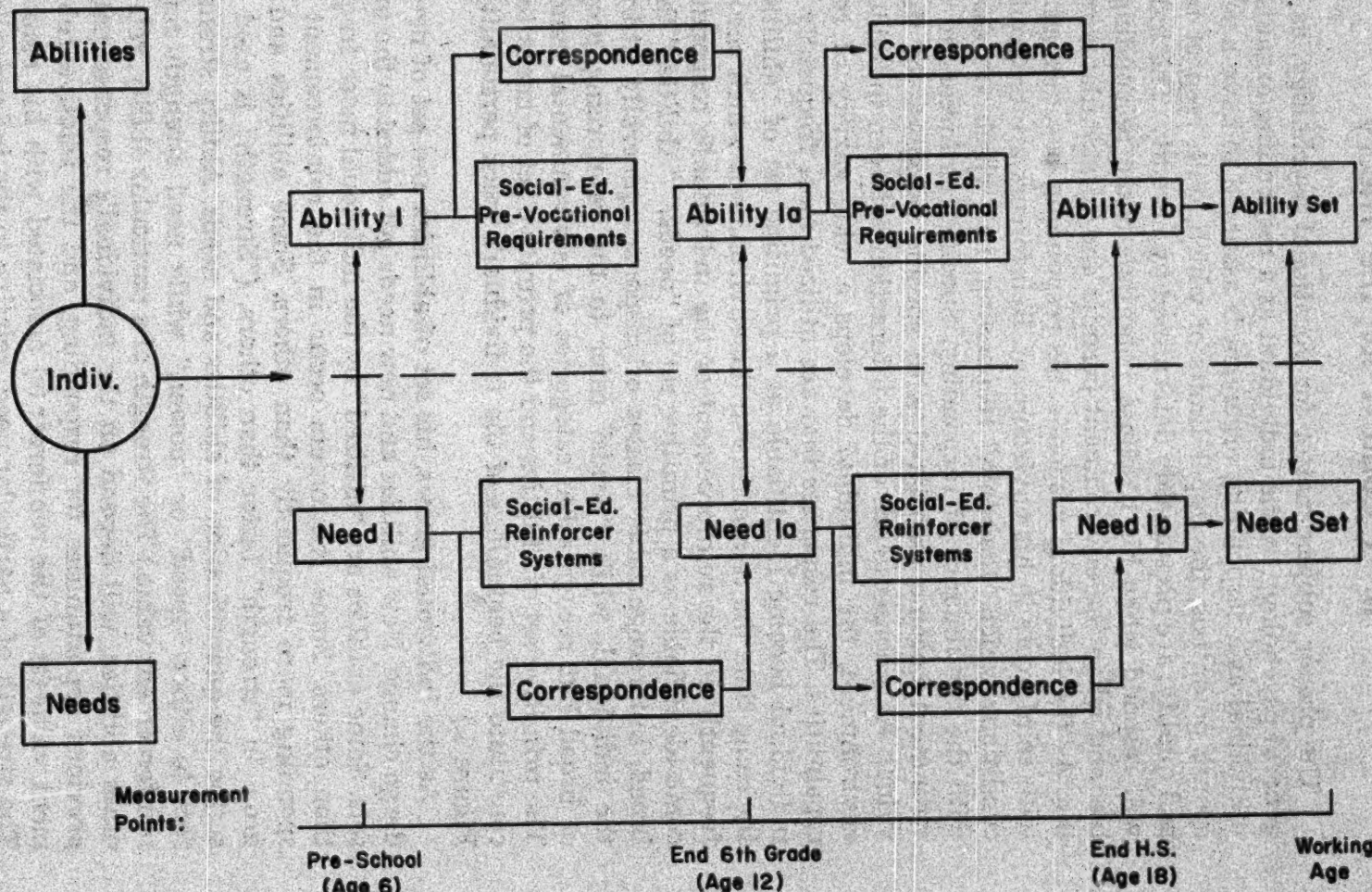
## II. A Context for the Theory

The proper subject matter for vocational psychology, as well as general psychology, is the **individual** as a **responding** organism. The individual as a responding organism is assumed to have a set of response potentials, the upper limits of which, with respect to range and quality, are presumably determined by heredity. The individual will respond when his response potentials make responding possible, and when the environment permits and/or stimulates responding. As the individual responds, his responding becomes associated with reinforcers in his environment. Reinforcers are environmental conditions which "maintain" responding, i.e., which are associated with the continuance of responding. Specific reinforcers in the environment become associated with specific responses of the individual. As a consequence of the interaction between individual and environment, the individual develops a wide variety of response capabilities. The responses that are utilized most frequently by the individual become identifiable as a primitive set of "abilities." At the same time the reinforcers in the environment which occur most frequently in the reinforcement of the individual's responding become identifiable as a primitive set of "needs." "Abilities" then are broad, but recognizable classes of responses generally utilized by the individual, while "needs" refer to the reinforcing properties of broad but recognizable categories of environmental conditions. The primitive set of abilities and the primitive set of needs together constitute the beginnings of the individual's work personality. (See Figure 1.)

As the individual grows, his set of abilities and set of needs undergo change. New abilities and new needs get added to the existing sets. Some abilities are "utilized" by the individual more frequently than others. Some reinforcers occur in the reinforcement of responding more frequently than others. Some abilities and needs grow in "strength" faster than others. ("Strength" is used to describe the quantification of abilities and needs. Ability strength refers to either "speed" or "power," while need strength refers to reinforcement value.) The strength of a particular ability, relative to other abilities, will depend on the individual's response potential, previous opportunities for responding, and the relative reinforcement value (s) of the reinforcer (s) associated with his responding. The strength of a particular need, relative to the individual's other

Figure 2

## INDIVIDUATION OF THE WORK PERSONALITY



needs, will depend on the frequency with which the reinforcer has been associated with the individual's responding, and on the relative strength of the ability with which the reinforcer has been primarily associated.

The individual experiences differential utilization of his abilities because of differing social-educational requirements. This results in a set of more specific abilities operating at different strengths. A set of more specific needs, with different needs at different strengths, also develops as a result of the individual's experiences with different social-educational reinforcer systems. The differentiation of the individual's sets of abilities and needs over time results from the varying levels of correspondence between the individual's ability and need patterns and the requirement-reinforcer systems to which the individual is exposed. The sets of abilities and needs become more specific as the individual persists in a particular "style of life," with its own relatively fixed set of requirement-reinforcer conditions. When the ability set and the need set are crystallized, successive measurements of ability and need strength will show no significant change. At this point, the individual is said to have a stable work personality. (See Figure 2.)

The theory of work adjustment presented on the following pages is premised on the stable work personality.

## III. A Theory of Work Adjustment

Work in contemporary society is behavior which is reinforced in several ways, most characteristically by the payment of wages. This behavior takes place in a locus called the work environment. The technical terms "position," "job," and "occupation" define various limits of the work environment. The work environment may be described in terms of the behaviors which are appropriate in it and the stimuli which are potential reinforcers available to the individual in this environment. When the individual behaves in a manner appropriate to his work environment, the likelihood of his behavior being reinforced is increased. The process by which the individual (with his unique set of abilities and needs) acts, reacts, and comes to terms with his work environment is called work adjustment.

The course of an individual's work adjustment is best studied through continuous observation of the individual while he is in his work environment. Since this is not practicable at present, it becomes necessary to infer the course of work adjustment from indicators and/or outcomes of the process. The most easily observed outcome is the length of time the individual stays in a given work environment. The longer an individual stays in a given work environment, the more probable it is that the individual has arrived at some adequate adjustment with this environment. When the individual leaves a given work environment, one may infer that the adjustment was inadequate.

"Leaving the work environment" may occur because the individual is no longer "satisfactory," i.e., he no longer exhibits the "appropriate" behavior and is forced to leave. On the other hand, "leaving the work environment" may be an action initiated by the individual because he is no longer "satisfied," i.e., some other work work environment is "more attractive" or his former work environment makes him "dissatisfied," or both. These conditions, under which the individual's relationship with a given work environment is terminated, imply two important indicators of the work adjustment process: satisfactoriness and satisfaction. If it is possible to determine varying amounts of satisfactoriness and satisfaction, then the state of the individual's work adjustment at any given time may be defined by his concurrent levels of satisfactoriness and satisfaction.

Work adjustment, defined now by satisfactoriness and satisfaction, is the outcome of the interaction between an individual and

his work environment. The significant aspect of the individual in this interaction is his work personality, which includes his unique set of abilities and needs. These same terms, abilities and needs, may be used to describe the significant aspects of the work environment, i.e., in terms of the abilities required (for satisfactory work behavior) and the reinforcers available (for need satisfaction).

Given the foregoing premises, it becomes possible to formulate a correspondence theory of work adjustment in terms of the following definitions and propositions:

## A. DEFINITIONS

1. **Satisfactoriness:**—Evaluation of the individual's work behavior principally in terms of the quality and quantity of task performance and/or performance outcomes (products, service). This evaluation may include other behavior dimensions, such as conformance to rules and interpersonal relations.

2. **Satisfaction:**—The individual's evaluation of stimulus conditions in the work environment with reference to their effectiveness in reinforcing his behavior.

3. **Abilities:**—Dimensions of response measurable through the application of psychological testing procedures, principally by ability and aptitude tests. These dimensions include, as examples, general intelligence, verbal ability, numerical ability, spatial ability, form perception, clerical ability, motor coordination, finger dexterity and manual dexterity. The current status of psychometrics limits the dimensions which can be included.

4. **Needs:**—Dimensions of reinforcement experience associated with classes of stimulus conditions which operate differentially as effective reinforcers. Some examples are: achievement, authority, creativity, economic reward, independence, and recognition. The development of need-measuring instruments has not attained the level of sophistication achieved for ability measurement.

5. **Ability requirements:**—Specifications of optimal ability ranges required for satisfactory work performance. These specifications are expressed in terms of the same dimensions as the individual's set of abilities.

6. **Reinforcer system:**—Specifications of the reinforcement values of classes of stimulus conditions. These specifications are expressed in terms of the same dimensions as the individual's set of needs.

7. **Correspondence:**—Similarity between abilities and ability requirements or between reinforcer system and needs.

8. **Tenure:**—The length of time an individual stays in a particular work environment.

## B. PROPOSITIONS

**Proposition I.** An individual's work adjustment at any point in time is defined by his concurrent levels of satisfactoriness and satisfaction.

**Proposition II.** Satisfactoriness is a function of the correspondence between an individual's set of abilities and the ability requirements of the work environment, provided that the individual's needs correspond with the reinforcer system of the work environment.

Given Proposition II, these corollaries follow:

**Corollary IIa.** Knowledge of an individual's ability set and his measured satisfactoriness permits the determination of the effective ability requirements of the work environment.

**Corollary IIb.** Knowledge of the ability requirements of the work environment and an individual's measured satisfactoriness permits the inference of an individual's ability set.

**Proposition III.** Satisfaction is a function of the correspondence between the reinforcer system of the work environment and the individual's set of needs, provided that the individual's abilities correspond with the ability requirements of the work environment.

Given Proposition III, these corollaries follow:

**Corollary IIIa.** Knowledge of an individual's need set and his measured satisfaction permits the determination of the effective reinforcer system of the work environment for the individual.

**Corollary IIIb.** Knowledge of the effective reinforcer system of the work environment and an individual's measured satisfaction permits the inference of an individual's set of needs.

**Proposition IV.** Satisfaction moderates the functional relationship between satisfactoriness and the correspondence of the individual's ability set with the ability requirements of the work environment.

**Proposition V.** Satisfactoriness moderates the functional relationship between satisfaction and the correspondence of the reinforcer system of the work environment with the individual's set of needs.

**Proposition VI.** The probability of an individual's being forced out of the work environment is inversely related to his measured satisfactoriness.

**Proposition VII.** The probability of an individual's voluntarily leaving the work environment is inversely related to his measured satisfaction.

Combining Propositions VI and VII, we have:

**Proposition VIII.** Tenure is a function of satisfactoriness and satisfaction.

Given Propositions II, III, and VIII, this corollary follows:

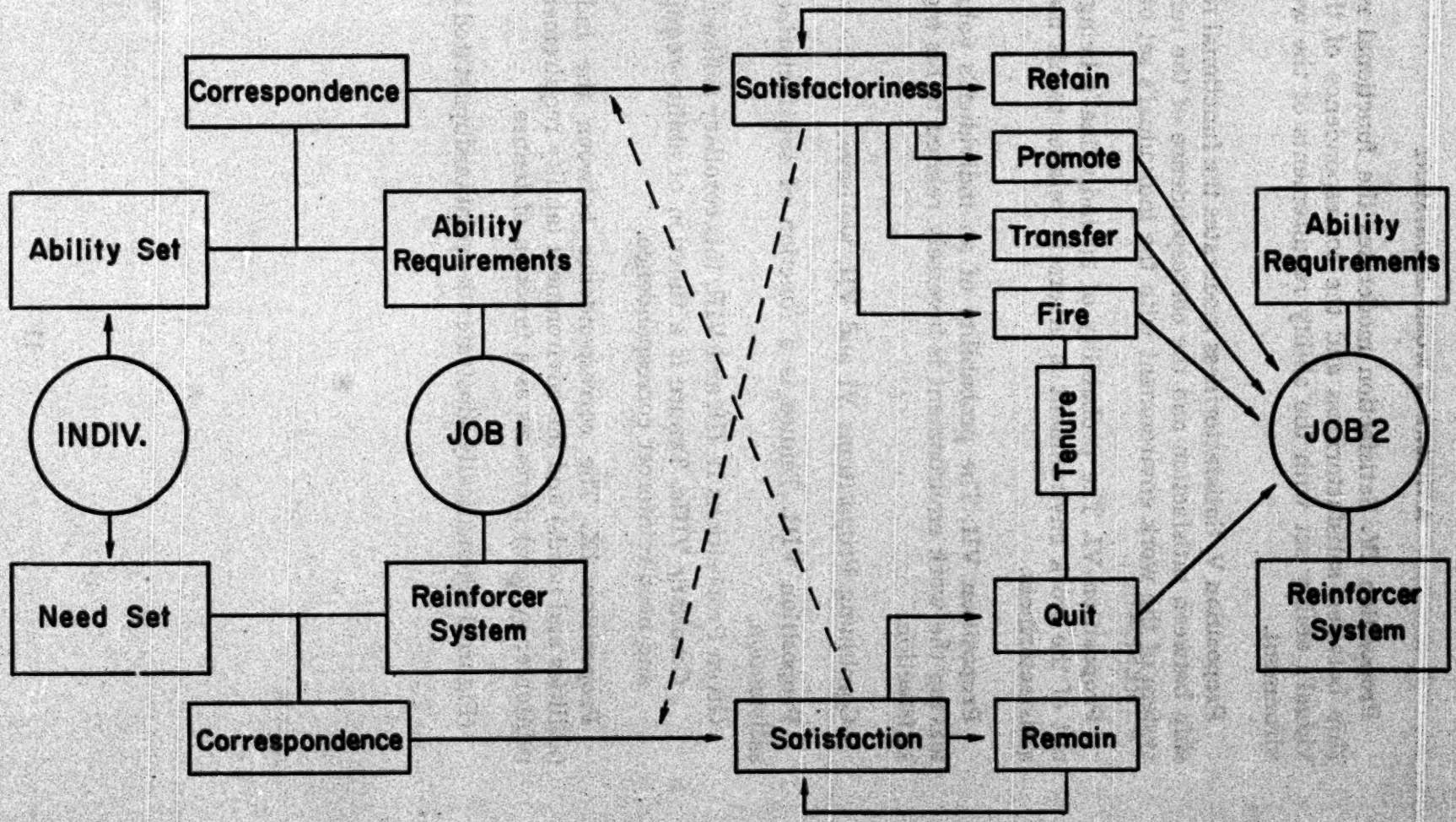
**Corollary VIIIa.** Tenure is a function of ability-requirement and need-reinforcer correspondence.

**Proposition IX.** The correspondence between the individual (abilities and needs) and the environment (ability requirements and reinforcer system) increases as a function of tenure.

(Figure 3 schematically illustrates the relationships stated above.)

Figure 3

WORK ADJUSTMENT



## IV. Some Implications from the Theory

To be useful, the theory should generate research hypotheses that are verifiable, and should be comprehensive in the sense that it takes into account the phenomena of work adjustment considered in the literature.

### A. RESEARCH HYPOTHESES

Listed below are examples of research hypotheses derived from the theory. The following hypotheses refer to research designs of the cross-sectional type:

1. Correspondence between abilities and requirements will correlate with satisfactoriness, the degree of correlation varying with the satisfaction level (ie., the higher the satisfaction level, the higher the correlation between ability-requirement correspondence and satisfactoriness).

2. Correspondence between needs and the reinforcer system will correlate with satisfaction, the degree of correlation varying with the satisfactoriness level (i.e., the higher the satisfactoriness level, the higher the correlation between need-reinforcer correspondence and satisfaction).

3. Assuming that work personalities and work environments are stable, average tenure will be highest for the correspondent group (high ability-requirement *and* high need-reinforcer correspondence) and lowest for the non-correspondent group (low ability-requirement *and* low need-reinforcer correspondence).

The following hypotheses refer to research designs of the group longitudinal type:

1. The proportion of "fires" will correlate negatively with initial level of ability-requirement correspondence.

2. The proportion of "quits" will correlate negatively with initial level of need-reinforcer correspondence.

3. If work adjustment is constant (i.e., initial satisfactoriness and satisfaction levels are maintained over time):
   a. the proportion of "stayers" will be higher than the proportion of "leavers" (i.e., "fires" *and* "quits") in the satisfactory *and* satisfied group;

b. the proportion of "quits" will be higher than the proportion of "stayers" and "fires" in the satisfactory but dissatisfied group;

c. the proportion of "fires" will be higher than the proportion of "stayers" and "quits" in the unsatisfactory but satisfied group; and

d. the proportion of "leavers" (both "fires" and "quits") will be higher than the proportion of "stayers" in the unsatisfactory *and* dissatisfied group.

The following hypotheses refer to research designs of the **individual longitudinal** type:

1. a. If ability-requirement correspondence is high, being retained is predicted. If ability-requirement correspondence is high and the individual is not retained, low satisfaction (and therefore low need-reinforcer correspondence) is predicted.

b. If ability-requirement correspondence is low, being "fired" is predicted. If ability-requirement correspondence is low and the individual is not "fired," high satisfaction (and therefore high need-reinforcer correspondence) is predicted.

c. If need-reinforcer correspondence is high, staying on the job is predicted. If need-reinforcer correspondence is high and the individual does not stay on the job, low satisfactoriness (and therefore low ability-requirement correspondence) is predicted.

d. If need-reinforcer correspondence is low, "quitting" is predicted. If need-reinforcer correspondence is low and the individual does not "quit," high satisfactoriness (and therefore high ability-requirement correspondence) is predicted.

e. If need-reinforcer correspondence is low, satisfactoriness is adequate but not high, and the individual does not "quit," then high *off-work* satisfaction (and therefore high off-work need-reinforcer correspondence) is predicted.

2. a. If the individual's ability set remains relatively fixed, then the P-correlation (correlation over time)[1] between satisfactoriness and ability requirements over time and/or across jobs will be high;

[1] P-correlation is the correlation of two variables in which *occasions* or points in time, rather than people, are sampled. All observations are on *one* individual. Observations on the two variables are paired for each occasion, and it is this paired series that is correlated. See Cattell (1957).

the higher the satisfaction level observed, the higher the P-correlation.

b. If the individual's need set remains relatively fixed, then the P-correlation between satisfaction and the reinforcer systems over time and/or across jobs will be high; the higher the satisfactoriness level observed, the higher the P-correlation.

3. a. If ability-requirement correspondence remains relatively the same over time (i.e., neither ability set nor ability requirements change significantly), then the P-correlation between satisfactoriness and satisfaction will be high.

b. If ability-requirement correspondence remains relatively the same over time and satisfactoriness remains relatively the same while satisfaction fluctuates (i.e., the P-correlation between satisfactoriness and satisfaction is low), then changes in the need set or reinforcer system or both will be observed, and these changes will correlate with satisfaction. (In other words, the P-correlation between satisfaction and need-reinforcer correspondence will be high.)

c. If ability-requirement correspondence remains relatively the same over time and satisfaction remains relatively the same while satisfactoriness fluctuates (i.e., the P-correlation between satisfactoriness and satisfaction is low), then the P-correlation between satisfactoriness and *off-work* satisfaction will be high.

4. a. If need-reinforcer correspondence remains relatively the same over time (i.e., neither need set nor reinforcer system changes significantly), then the P-correlation between satisfaction and satisfactoriness will be high.

b. If need-reinforcer correspondence remains relatively the same over time and satisfaction remains relatively the same while satisfactoriness fluctuates (i.e., the P-correlation between satisfaction and satisfactoriness is low), then changes in the ability set or ability requirements or both will be observed, and these changes will correlate with satisfactoriness. (In other words, the P-correlation between satisfactoriness and ability-requirement correspondence will be high.)

c. If need-reinforcer correspondence remains relatively the same over time and satisfactoriness remains relatively the same while satisfaction fluctuates (i.e., the P-correlation between satisfaction and satisfactoriness is low), then the P-correlation between satisfaction and *off-work* satisfactoriness will be high.

## B. COMPREHENSIVENESS

If work adjustment is to be described in the terms of this theory, it becomes necessary to examine the comprehensiveness of the theory. How does the theory embrace or interpret findings or conceptualizations reported in the literature of vocational psychology, personnel psychology, and occupational sociology, as these facts and concepts relate to work adjustment?

This discussion of the literature is limited, not exhaustive, but does include some of the major concepts in vocational adjustment and vocational development literature. To avoid lengthy discussion of what is most useful or most popular in the literature, and to focus on the comprehensiveness of the theory, the following findings and concepts from the literature are presented in alphabetical order:

**Adaptation:** (Cattell, 1957; Hahn, 1962) as it relates to work can be embraced by the theory as correspondence between the individual's set of abilities and the ability requirements of the job. "Adaptation with adjustment" adds correspondence between the set of needs and the job reinforcer system, resulting in satisfaction as well as satisfactoriness.

Hahn's (1962) "psychoevaluation," or "structured self study" entails, if one accepts the theory, exploration by the individual and the vocational psychologist of the prior development of high-strength abilities and needs.

**Attitudes:** Attitudes are often defined as predispositions to action. In the theory of work adjustment, needs are predispositions to effective reinforcer conditions. Since responding is a function of reinforcer conditions, needs affect response probabilities. In this sense needs are predispositions to action.

In the literature attitudes are operationally defined in yet another way, as evaluations of the environment (stimulus objects). As examples, in the work environment, one may have attitudes toward working conditions, supervision, and co-workers. In this sense, the theory would define attitudes as dimensions of employment satisfaction.

**External forces:** Some sociological approaches, e.g., Caplow (1954) to work theory stress such "accidents" as those of birth, sex, social class, and race as powerful external forces imposing barriers to work choice and work adjustment. "Forces," for the theory of work adjustment, are seen not only as powerful restrictions but also as

opportunities, or lack of them, afforded a *particular* individual for utilization of ability and for need satisfaction in the development of a work personality and in work adjustment.

**Fantasy, Tentative, Realistic Vocational-Choice Periods:** Ginzberg, et al. (1951) describe three periods in a process of occupational decision making. The fantasy period is described as a period in which the child thinks about an occupation in terms of his wish to be an adult. In the tentative period he realizes he has a problem of occupational choice and must begin to consider reality factors. In the realistic period, reality factors weigh heavily and the individual realizes he must work out a compromise. At about age 17 reality factors move into a central position.

The context for the theory of work adjustment, instead of referring to fantasy, unrealistic choice, and the wish to be an adult, assumes a period of labile, relatively uncrystallized abilities and needs when the individual may have little or no information about job requirements and job reinforcer systems. Increasing "realism" (in terms of choices more likely to maximize correspondences in both the ability-requirement and need-reinforcer dimensions) is possible as the ability set and the need set become increasingly differentiated and stable, and with increasing knowledge of available requirements and reinforcer systems. In other words, "realistic" choice is possible when a work personality has been established (there will be individual differences for the age beyond which relatively little change in abilities and needs measurement is observed). At this point an individual can make "realistic" choices. The "realism" of choices is determined, not by his description of what he feels jobs hold for him, but by the measured correspondences available to him in jobs he chooses.

**Individual differences:** The theory of work adjustment is predicated on the fact of individual differences, intra- as well as inter-, in abilities and needs.

**Internal forces:** The psychoanalytic position taken by Brill (1949) explains work adjustment in terms of powerful internal forces working themselves out in a sublimated or adjustive fashion. The theory of work adjustment describes these "forces" as high strength needs in the set of needs. Their satisfaction through work might well be achieved in many different ways, in different degrees, and in a variety of job situations.

**Occupational personality:** In a discussion of occupational personality, Gross (1958) states ". . . there is probably both a process of personality selection and one of molding for occupations. A certain type of personality may be attracted to an occupation with a higher probability than another type. But whatever the original personality, the occupation takes the person and further molds his personality until it becomes one felt to be appropriate to the occupation."

In the theory of work adjustment, some change in the ability and need sets may occur during the initial period of exposure to work. Decreasing amounts of change (increasing stability of ability and need sets) will be expected as the individual's employment experience increases. Work-oriented ability requirements may facilitate changes in the ability set. As an example, the requirement of supervising in a work setting may permit the utilization of abilities in response combinations not experienced prior to work. In a similar fashion, some needs may not be present at high strength in the set of needs at initial employment. This could be the case if preemployment history did not include reinforcement experiences that are present almost exclusively in work settings. For example, the more exclusively work-oriented reinforcement conditions, such as receiving a paycheck, make possible the enlargement of the total number of stimulus conditions available to the individual for expression of his needs, both in work and outside of it. As a result changes in need strengths may be developed for the more exclusively work-oriented reinforcers in their own right (e.g., for continuing paychecks, raises, financial security, promotions, etc.).

**Psychological discordance:** Is described (Vance, Volsky, 1962) as normal distress appropriate to incompatibilities between such things as: abilities and performance, goals and internal pressures, and abilities and interests. The theory of work adjustment describes this in terms of lack of correspondence between the set of abilities and ability requirements, and/or between the set of needs and the reinforcer system. Such lack of correspondence would permit prediction of this normal distress, or discordance, and would be reflected in lack of satisfaction and/or lack of satisfactoriness.

Vance and Volsky describe "psychological discordance reduction" as aiding the individual "by adding new responses or perceptions to his repertoire, which can be used to achieve a less discordant behavior pattern in the future." The theory of work adjustment

implies that, in addition to adding new responses, the individual might be assisted in psychological discordance reduction by utilizing other high strength abilities in his set of abilities and/or that he be aided in learning about the probable need satisfaction available to him in more appropriate reinforcer systems and requirements in jobs.

**Self-actualization:** Some theorists (Goldstein, 1939, and Rogers, 1961) postulate a self-actualization tendency in man. This is described by Rogers (1961) as "the directional trend which is evident in all organic and human life—the urge to expand, extend, develop, mature —the tendency to express and activate all the capacities of the organism, or the self." In the theory of work adjustment self-actualization is viewed only as the individual's attempts to achieve and maintain correspondences between both abilities and ability requirements, and needs and reinforcer systems.

**Self-concept and vocational development:** Super (1953) states that "The process of vocational development is essentially that of developing and implementing a self concept," with the individual deriving work satisfactions and life satisfactions from situations where "he can play the kind of role which his growth and exploratory experiences have led him to consider congenial and appropriate." The theory of work adjustment defines work situations which are "congenial and appropriate" in terms of preferred reinforcer systems, i.e., needs, and ability requirements that correspond to the individual's set of abilities. The context for the theory also indicates how "growth and exploratory experiences" have their effects on the development of abilities and needs, and how work satisfactions are derived from the expression of the work personality.

**Vocational choice:** The theory of work adjustment is not a theory of vocational choice. It seeks, however, to provide a framework for predicting the outcomes of vocational choice.

**Vocational interests:** Instruments designed to measure vocational interests, such as the Strong Vocational Interest Blank (Strong, 1943), the Minnesota Vocational Interest Inventory (Clark, 1961), and the Kuder Preference Record-Vocational (Kuder, 1956), require an individual to indicate a variety of preferences. It is assumed that these preferences are based on some knowledge of the reinforcers involved, and specify conditions likely to produce satis-

faction. For work adjustment, therefore, interest measurement is one possible approach to the identification of each individual's set of needs and the strengths at which these needs exist.

**Vocational maturity:** The theory of work adjustment focuses on the concept of the *stable* work personality instead of on vocational maturity. According to the theory, the individual's work personality is stable when he demonstrates, on repeated testings, no significant change in his set of abilities and set of needs. Stability so defined means simply that he has definitive, relatively-fixed patterns for work.

# V. Social Utility of the Theory of Work Adjustment

## A. IN VOCATIONAL COUNSELING PRACTICE

The vocational counselor must be an expert in the measurement of abilities and needs. He also must be expert in locating and interpreting information about job ability requirements and job reinforcer systems. Utilizing his expertness in these ways, the vocational counselor can view a particular individual in terms of jobs, with their ability requirements and reinforcer systems, in order to assess the individual's potential for work (vocational diagnosis), and to specify the job conditions necessary for work adjustment (vocational prognosis).

If the vocational counselor is to operate in the manner described above, it will be necessary to make available to him additional carefully derived information about the ability-requirement and reinforcer-system characteristics of jobs representing the entire range of job families. More specifically, the counselor will require that attention be given to the empirical development of many more Occupational Aptitude Patterns (OAP's) and to the inclusion of procedures for determining and describing Occupational Reinforcer Patterns (ORP's) as a part of routine and continuous job-analysis activity.

The vocational counselor must also be expert in influencing the counselee's vocational decisions, through some form of communication or by effective manipulation of counselee experiences, so that those decisions are consonant with the ability-requirement and need-reinforcement correspondences necessary for work adjustment (individual satisfactoriness and satisfaction).

The theory should facilitate the determination of reasons for lack of satisfactoriness and lack of satisfaction. It ought also to be useful in evaluating the effects of sudden changes in the individual (physical-emotional) or in the job (changes in duties, automation, new policies, restrictions, etc.).

There are implications for counselor education, centered particularly around such subject-matter areas as occupations (the measurement and interpretation of requirements and reinforcers) and individual vocational analysis (the measurement and interpretation of abilities and needs). Perhaps less emphasis on group labels (e.g., over-dependency of counselees) and more emphasis on indi-

vidual work-personality-work-adjustment relationships (utilization of assets and liabilities) is warranted.

## B. IN EDUCATION

It is suggested that more attention be given, in educational research, to the process of individuation of the work personality. Specifically, the theory requires attention to the identification and measurement of ability requirements and reinforcer systems in educational and social settings. In order to develop effectively, in individuals, sets of abilities and needs compatible with the realities of work environments, educators need to know how to structure stimulus situations for maximum ability utilization and optimal reinforcement. This theoretical orientation suggests, therefore, a systematic approach to problems in classroom motivation as well as to problems in work personality development.

## C. IN SPECIAL PROBLEM AREAS

### Disability

In the theory of work adjustment, disability is viewed as a significant change in the ability set which is brought about by physical, mental, and/or emotional trauma, with or without accompanying changes in the need set. Such changes would have predictable consequences in the correspondences attainable, by the individual, with job ability requirements and reinforcer systems. Disability is viewed, therefore, in terms of its actual disruptive consequences for an individual, rather than in terms of the expectations of an observer for a particular disability class or its stereotype.

Knowledge of the measured residual set of abilities and the set of needs (after maximum medical treatment and physical restoration) should be necessary information for the vocational rehabilitation counselor in his attempts to identify jobs with the appropriate requirement-reinforcer characteristics, and which will yield maximum work adjustment. Such information would also be useful in meeting motivational problems of the physically handicapped.

The question of classifying the severity of disability, for research and case-management purposes, might be approached in terms of the measurement of the amount of disruption of ability-requirement correspondence in a previously satisfactory worker (as defined by his immediately preceding work history). Very severe dis-

ability might be so disruptive as to require considerable retraining. In this event, one would conceptualize the individual's experiences as taking place in the paradigm representing individuation of the work personality (Figure 2). Progress in training and/or treatment might be measured in terms of ability- and need-development changes over a series of successive periodic measurements, with success in retraining and/or treatment being defined by the levels of ability and need strengths reached when the amounts of measured change become insignificant.

### Automation

The effects of being technologically displaced can be viewed, in this theory, as the converse of disability. The radical change is seen as the sudden removal of the requirement-reinforcer system in which the individual has been operating. The primary problem is not one of the individual's residual ability-need characteristics, but rather is one of what other requirement-reinforcer systems are available to him after technological change has occurred.

Vocational counseling will be useful in this instance in both the search for appropriate other-job stimulus situations, and in the identification of other high-strength abilities and needs which may enable the individual to achieve work adjustment.

The problem of automation is essentially the problem of moving from one job to another, except that the move is more sudden and may be more traumatic. It is forced only from the employer side, and may occur after an individual's ability and need sets are firmly crystallized. The most promising approaches to the achievement of individual work adjustment, for the technologically displaced person with long job tenure, would appear to be those which are concerned with the requirement-reinforcer communalities which cut across a number of jobs.

### Unemployment

The theory stresses the need for individualized matching of individuals and jobs. This suggests that vocational planning should be based on careful analysis of both the individual's sets of abilities and needs and the available job environments. This individualized approach would appear likely to yield more lasting solutions than programs for the retraining of unemployed workers for shortage

jobs, without regard for the ability-requirement and need-reinforcer correspondences for worker and job. Solutions might be more lasting in terms of improved tenure outcomes, e.g., staying on the same job or moving across many jobs in an orderly and/or progressive fashion. Movement across several jobs having a significant number of common requirements and reinforcers would be viewed as consistent with work adjustment.

**Retirement**

In retirement, the theory would suggest that an individual operates in an enviroment composed of such ability requirements and reinforcers as those defined by his remaining job-related functions and his avocational activities. The avocational activities are regulated by the community in the sense that he must meet requirements to participate (or, even to gain acceptance of the products of his "self-regulated" hobbies). Adjustment to retirement can then be viewed in the same terms as work adjustment, i.e., matching individual abilities and needs with environmental requirement-reinforcer conditions. This requires careful environmental analysis analogous to thorough job analysis.

## VI. Comment

While in our definition of the term *work personality* we have focused on two sets of personality variables (abilities and needs), it should not be assumed that we feel these two sets of variables are the only ones involved. It is felt that they make the major contributions to the explanation of work adjustment. However, attention should be directed also to personality variables which characterize the individual's style of response. For example, the measurement of abilities and needs will be affected by individual differences in speed of response, perseverance in responding, response oscillation, effectiveness of schedules of reinforcement and of contingency of reinforcers to specific responses.

It also would be naive to assume that the abilities and needs listed in Figure 1 represent the total range for an individual. One major research problem is the discovery, definition, and measurement of ability and need dimensions which will account for individual differences in responding to the full range of job requirements and reinforcer systems.

This theory of work adjustment derived from early research efforts of the Regional Vocational Rehabilitation Research Institute at the University of Minnesota and has provided a model for a continuing core research program. The research findings are reported in a bulletin series entitled *Minnesota Studies in Vocational Rehabilitation*. Of particular relevance to the present state of the theory are Bulletins X, XIII, XIV, et seq.

The authors of this theory of work adjustment regard it as a useful framework for an active research program. However, they wish to be very clear about the fact that it represents only the present stage of their thinking. Subsequent publications will reflect changes and/or additions to the theory, as dictated by additional research findings.

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